

Applicant : Timothy J. Brosnihan et al
Serial No. : 09/342,348
Filed : June 29, 1999
Page : 2 of 8

Attorney's Docket No.: 07043-060002 / B97-065-2

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of fabricating a microelectromechanical system, comprising:
providing a substrate having a device layer;
etching a first trench in the device layer, the first trench surrounding a first region of the substrate;
depositing a dielectric isolation layer in the first trench to form an isolation trench that electrically isolates the first region from a second region of the substrate; and
etching a second trench in the device layer, the second trench located in the first region and defining a microstructure, and including a plurality of elements anchored to the first isolation trench such that the isolation trench electrically isolating provides electrical isolation for the anchored elements of the microstructure from each other.
2. (Previously presented) The method of claim 1 further comprising forming circuitry in the second region of the substrate outside the first region.
3. (Original) The method of claim 2 further comprising depositing an electrical connection over the first trench to connect the microstructure to the circuitry.
4. (Original) The method of claim 1 further comprising depositing a filler material over the isolation layer in the first trench.

Applicant : Timothy J. Brosnihan et al
Serial No. : 09/342,348
Filed : June 29, 1999
Page : 3 of 8

Attorney's Docket No.: 07043-060002 / B97-065-2

5. (Original) The method of claim 1 wherein the isolation layer fills the first trench.
6. (Original) The method of claim 1 wherein the substrate further includes a handle layer and a sacrificial layer.
7. (Original) The method of claim 6 wherein the method further comprises removing a portion of the sacrificial layer to release the microstructure.
8. (Original) The method of claim 7 wherein the step of etching the first trench etches through the device layer to expose the sacrificial layer.
9. (Original) The method of claim 7 wherein the step of etching the second trench etches through the device layer to expose the sacrificial layer.
10. (Original) The method of claim 6 wherein the sacrificial layer includes silicon dioxide.
11. (Original) The method of claim 1 wherein the device layer includes epitaxial silicon.
12. (Original) The method of claim 1 wherein the isolation layer includes silicon nitride.

Claims 13-22 Cancelled

23. (Currently amended) The method of claim 1, wherein the step of etching the second trench includes etching a portion of the device layer that abuts the ~~first~~ isolation trench.

Applicant : Timothy J. Brosnihan et al
Serial No. : 09/342,348
Filed : June 29, 1999
Page : 4 of 8

Attorney's Docket No.: 07043-060002 / B97-065-2

24. (Currently amended) The method of claim 23, wherein the step of etching the second trench includes laterally anchoring the elements to the first isolation trench.

25. (Previously presented) The method of claim 24, wherein the step of etching the second trench includes forming at least one movable element and at least one generally immobile element.

26. (Previously presented) The method of claim 1, wherein the step of etching the first trench comprises inductively coupled plasma etching.

27. (Previously presented) The method of claim 1, wherein the step of etching the second trench comprises inductively coupled plasma etching.